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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,579	04/08/2004	Harald Kerschbaumer	IVe02US	8574
7590 09/19/2005			EXAMINER	
John C. Thompson 69 Grayton Road Tonawanda, NY 14150			SUTHAR, RISHI S	
			ART UNIT	PAPER NUMBER
			2851	
DATE MAILED: 09/19/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/820,579

Applicant(s)

KERSCHBAUMER ET AL.

Examiner

Rishi Suthar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-16 is/are rejected.
- 7) ☒ Claim(s) 10 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20040823</u> .  | 6) <input type="checkbox"/> Other: ____                                     |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7, 11, and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7 and 15 recite the limitation "...at least one of an automatic picture taking operation and a manually actuated picture taking operation..." on page 18 (lines 20-22) and page 20 (lines 29-30), respectively. It is unclear how the camera claimed can simultaneously permit automatic and manual picture taking operations.

Claim 11, 13, 14, and 16 recite the limitation "preferably" on page 19 (line 16) and page 20 (line 13). The limitation "preferably" is not definite and needs clarification.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, 8 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Kerschbaumer et al. (U.S. Patent Application Publication No. US 2003/0148243).

Regarding claim 1, Kerschbaumer et al. teaches an intra-oral camera for producing a picture of tooth of a dental patient comprising: a camera (10) operable by a user to take a picture of the intra-oral object once the user has oriented the camera in proper picture taking position relative to the intra-oral object, the camera being operable to capture sight information relating to the intra-oral object; a light source (42) for irradiating the intra-oral object with a light beam; and a means (18) for indicating that the camera has substantially assumed the proper picture taking position relative to the intra-oral object, the indicating means being operable to evaluate at least one of sight information (data from CCD sensor) relating to the intra-oral object and light (p. 2, par. [0029]) and to provide an indication that the camera has substantially assumed the proper picture taking position relative to the intra-oral object based upon such evaluation. (p. 2, par. [0028]).

Regarding claim 2, Kerschbaumer et al. teaches the light source (42) shown in Fig. 3 is comprised of laser diodes (40, p. 2, par. [0048]) that projects a light point onto the tooth.

Regarding claim 3, it is inherent that the camera of Kerschbaumer et al. comprises an optical axis. Kerschbaumer et al. teaches that the camera forms a light point with the light source (42) in the middle of the camera picture receipt region (59) and the light source (42) is oriented at an angle to the optical axis, as seen in Fig. 3.

Regarding claim 4, it is inherent that the angled orientation of the light source relative to the optical axis of Kerschbaumer et al. is such that at a given spacing of the camera from the intra-oral object, the optical axis coincides with or intersects the light point projected onto the intra-oral object, and intersects such centrally. This limitation is inherent in the camera of Kerschbaumer et al. because a lack of an intersection of the light and the optical axis would produce a dark spot in the image (59), but a dark spot is not present.

Regarding claim 5, Kerschbaumer et al. teaches the light source comprises at least two laser diodes (40, p. 4, par. [0048]) symmetrically oriented, as shown in Fig. 3.

Regarding claim 6, Kerschbaumer et al. teaches the indicating means (18) is operable to evaluate sight information relating to the light property of one of the laser diodes (40) and to indicate that the camera has substantially assumed the proper picture taking position relative to the intra oral object as soon as the camera has been aimed (p. 2, par. [0028]).

Regarding claim 8, Kerschbaumer et al. teaches the indicating means displays whether the camera has been oriented relative to a selective selectively cropped camera frame portion (image 59), whereby the selectively cropped camera frame portion overlays the light coming from the intra-oral object in response to the irradiation thereof by the light source.

Regarding claim 12, Kerschbaumer et al. teaches a method for producing a picture of an intra-oral object, the method comprising: orienting a camera (10) to take a picture of the intra-oral object, the camera being operable to capture sight information

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relating to the intra-oral object (p. 2, par. [0028]); adjusting the orientation of the light source (42) relative to the intra-oral object such that the intra-oral object will be irradiated by a light beam from the light source as the camera is actuated to take a picture of the intra-oral object; indicating, in response to an evaluation of at least one of sight information relating to the intra-oral object and light, captured by the camera (10), which comprises the light coming from the intra-oral object in response to the irradiation thereof by the light source, that the camera has substantially assumed a proper picture taking position relative to the intra-oral object (p. 2, par. [0028]).

5. Claims 13, 14, and 16 as understood are rejected under 35 U.S.C. 102(e) as being anticipated by Kerschbaumer et al. (U.S. Patent Application Publication No. US 2003/0148243).

Regarding claim 13, Kerschbaumer et al. teaches the light source (42) comprises at least one laser diode (p. 4, par. [0047]), and the step of indicating includes indicating that the camera has substantially assumed a proper picture taking position based upon an evaluation of light formed by the at least one laser diode.

Regarding claim 14, Kerschbaumer et al. teaches the step of indicating includes evaluating sight information as soon as the camera, while it is being oriented, has substantially assumed the proper picture taking position relative to the intra-oral object. (p. 2, par. [0028]).

Regarding claim 16, Kerschbaumer et al. teaches the step of indicating includes whether the camera has been oriented relative to a selectively cropped camera frame

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portion (image 59), whereby the selectively cropped camera frame portion overlays the light coming from the intra-oral object in response to the irradiation thereof by the light source (42).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7 and 15 as understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerschbaumer et al. (U.S. Patent Application Publication No. US 2003/0148243) in view of Daitoku (U.S. Patent No. 4,268,154).

Kerschbaumer et al. teaches the claimed invention above, except for automatic and manual picture taking operation. Daitoku teaches a camera with a manually actuated picture taking operation and automatic picture taking operation for taking a picture after a predetermined interval. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the camera of Kerschbaumer et al. to include a manual and automatic timing circuit as taught by Daitoku since it is well known in the art to provide cameras with such timing circuits.

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8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kerschbaumer et al. (U.S. Patent Application Publication No. US 2003/0148243) in view of Matos (U.S. Patent Application Publication No. US 2002/0150015).

Kerschbaumer et al. teaches that the light source is comprised of laser diodes, but does not teach the laser diodes to be pinpoint light sources. Matos teaches that pinpoint light sources such as laser diodes can be used as a light source for a camera. It would have been obvious to one of ordinary skill in the art at the time of invention to use the laser diodes in the camera Kerschbaumer et al. to act as pinpoint light sources as taught by Matos since the two types of light sources are interchangeable.

#### ***Allowable Subject Matter***

Claims 10 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

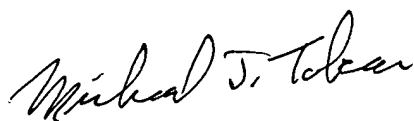
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kunishige (U.S. Patent No. 5,270,765) and Umeda et al. (U.S. Patent No. 6,606,458) both teach cameras that use a light source to detect whether the camera is in the right picture taking position.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RS

  
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